CAlifornians for Renewable Energy, Inc. (CARE)

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Cecilia Brown
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U.S. Fish and Wildlife Service
2800 Cottage Way
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Dear Cecilia Brown,

I hereby request that the US Fish and Wildlife Service consider the following issues when conducting its Section 7 consultation with Calpine/Bechtel regarding the Metcalf Energy Center. I request that the Service delay the issuance of its biological opinion until these issues I raise have been adequately addressed. To adequately address these issues, it is my opinion that a lot more time will be needed than the California Energy Commission (CEC) has scheduled for issuance of its Final Staff Assessment (FSA), and for holding evidentiary hearings.

Due to a protracted, piece-meal release of environmental documents by the applicant, the public and the Service has not had the opportunity to coherently examine the applicant's description of the environmental setting, the projected impacts, and the proposed mitigation. The applicant has not disclosed its mitigation and monitoring plan, referred to as the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). At this late date, if the BRMIMP is released prior to issuance of the CEC's FSA, the public cannot adequately assess the effectiveness of the BRMIMP prior to the CEC's intended date of release of the FSA. It is unfair to the public for the applicant to delay the release of the BRMIMP until the Section 7 consultation is completed. The Service and the public should have had this document months ago, prior to Section 7 consultation. I request that the Service delays its Section 7 consultation with the applicant until the public is given a reasonable preliminary description of the mitigation and monitoring plan.

I am concerned that certain important issues may not be part of the current Section 7 consultation. These issues are the following.

The NOx emissions from the proposed Metcalf Energy Center would create cumulative impacts to an already stressed ecosystem, and would jeopardize the California Red-legged Frog (Draft Recovery Plan for the California Red-legged Frog), as well as the habitat of the Bay Checkerspot Butterfly (see Stuart Weiss 1999, Conservation Biology 13:1-12). The fact that the South Bay Area already approaches the federal air quality standard for NOx concentrations, and exceeds the federal air standard for ozone levels, forces the conclusion that any additional emissions of NOx would exacerbate an already intolerable situation. According to the Preliminary Determination of Compliance (Bay Area Air Quality Management District, Application 27215, April 20, 2000), the MEC will produce 186 tons per year of additional NOx into the environment of northern Coyote Valley and the surrounding serpentine hillsides. Buying pollution credits would do nothing to reduce the threats to the endangered species due to NOx emissions from the MEC.

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Incredibly, the applicant recently claimed that moving the MEC 10-15 miles to the north would make no difference to the NOx deposition onto the ridges surrounding the Coyote Valley (Calpine/Bechtel's comments on the Metcalf Energy Center Preliminary Staff Assessment, Set 3:13). This claim calls into question the applicant's atmospheric modeling results; that is, will or will not the NOx deposit onto the surrounding soils in the amounts indicated by the various contour intervals predicted by the previous model runs? Is the applicant now claiming that the NOx contribution from MEC to the environment will be at *de minimus* levels? The Service and the public is going to need substantial time to re-evaluate the atmospheric modeling predictions, and the possible impacts on California Red-legged Frog, Bay Checkerspot Butterfly, and other special status species. This claim of the applicant is so deviant from previously acknowledged impacts of NOx deposition from the MEC that the credibility of all the applicant's previous claims needs to be seriously questioned.

According to the Draft Recovery Plan for the California Red-legged Frog, 100% of Red-legged Frog eggs die when exposed to salinity levels of >4.5 parts per thousand, and 100% of larvae die when exposed to salinity levels of >7 parts per thousand. Recently submitted documents by the applicant made it apparent to me that the MEC will increase the salinity of the waters in the local area. The salinity of the recycled water will increase by 3% (PSA: 402) and the discharge will include 780 mg/L of sodium (PSA: 403). According to the applicant's PSA response (set 5:1-9), the recycled water in the South Bay Reclamation Program currently has 166-mg/L sodium, but will increase to only 171 mg/L when returned. The applicant does not clarify where the balance of the sodium will go; that is, the balance between 171 and 780 mg/L. Since the cooling towers will be releasing >293 metric tons of water per hour (Applicant's PSA response Set 7, Attachment AQ-2: 1) and increasing local humidity levels by 1-2% at 0 to 5 km from the MEC (Set 7, Attachment AQ-2: 1), I have to assume that much of this excess sodium will also be released via the cooling towers. In fact, according to the Preliminary Determination of Compliance (Bay Area Air Quality Management District, Application 27215, April 20, 2000), the maximum total dissolved solids (TDS) measured at the base of the cooling towers could be as high as 5,438 mg/L.

The stack effluent will bear salts, which will deposit in the local environment and run-off into the local streams. The Service and the public need time to consider whether this increase in salinity levels poses a significant threat to the viability of California Red-legged Frogs in the region. It is especially important to accurately predict the increased salinity levels because Red-legged frogs have been nearly completely extirpated from nearby streams to the west of the proposed MEC site. Increasing salinity in local streams to toxic levels would constitute a significant cumulative impact, which has not yet been addressed by the applicant or the CEC.

In responding to the PSA (set 7:2), the applicant estimated that 100% of the particulate matter in the MEC airborne effluent would be $PM_{2.5}$. This fine particulate matter may pose increased risk to the California Red-legged Frog, because particulate matter was identified in the Draft Recovery Plan for the California Red-legged Frog as a threat to the species. The South Bay Area already exceeds the federal air standard for PM_{10} levels, so acknowledging that all the particulate matter contributed by MEC will be $PM_{2.5}$ is especially troubling. According to the Preliminary Determination of Compliance (Bay Area Air Quality Management District, Application 27215, April 20, 2000), the MEC will generate nearly 99 tons per year of PM_{10}.

According to the Set 5 response of the applicant to the PSA, chloride and boron levels will increase in the recycled water outflow relative to the inflow of the MEC. Large amounts of chloride and boron will be produced as waste (Table 2 of Set 5), but it is unclear where these waste products will go. At this point, I have to assume that a large amount, if not all of it, will be released from the stacks and will deposit into

the local environment. Chlorine is identified as a threat to the California Red-legged Frog (Draft Recovery Plan for the California Red-legged Frog), and boron may be an important factor for the absence of Red-legged Frogs in Bear Creek, Colusa County.

The Set 7 response of the applicant acknowledges that the air effluent will include formaldehyde, acetaldehyde, and acrolein. These contaminants, along with ozone, ammonia, NOx, and SOx, pose increased threats to the California Red-legged Frog. Ozone and ammonia were identified as threats to the California Red-legged Frog (Draft Recovery Plan for the California Red-legged Frog). Their potential impacts need to be assessed, especially considering that the Bay Area Air Quality Management District (Preliminary Determination of Compliance, Application 27215, April 20, 2000) projects that the MEC will generate up to 114 tons per year of ammonia from the stacks.

Furthermore, Figure 3 in the Attachment LU/PSA-1 depicts the locations of Superfund sites, hazardous waste handlers, air releases, toxic releases and risk sites within 3 miles of MEC. These mapped sites are numerous within 3 miles of the MEC, and includes 3 Superfund sites! Also, I know that additional Superfund sites and toxic waste handlers and releasers occur within the region, beyond the 3-mile radius depicted in Fig. 3. Under contract with the US Fish and Wildlife Service, I searched for California Red-legged Frogs in Arroyo Calero, Los Alamitos, Almaden and Los Gatos Creek watersheds during 1997 and 1998. The Service suspected that the California Red-legged Frog might have declined in number as a result of mercury loading into these watersheds from the Almaden Quicksilver Mine Superfund Site, as well as multiple other mercury mines in the surrounding mountains. I found 3 California Red-legged Frogs in one location, nearby where Mark Jennings found one, and nearby where a Park Ranger found one dead frog on a boat dock in Calero Reservoir. Otherwise, the California Red-legged Frog appeared to be very nearly extirpated in these watersheds, which are just to the west of MEC. Adding another polluter into an area already crammed with polluters really increases the risk factors for the California Red-legged Frog in Coyote and Fisher Creeks. I recommend that the Service consider these cumulative impacts of MEC while undergoing section 7 consultations.

The applicant's set 7 response to my PSA comments claimed that the Bay Checkerspot Butterflies on Tulare Hill contribute little to the viability of the larger metapopulation, even though their expert, Stuart Weiss, concludes that the Bay Checkerspot Butterfly exhibits a metapopulation structure (Conservation Biology 13:1-12). This discrepancy between the expert's opinion and his client's latest claim needs to be resolved. If Tulare Hill is inconsequential to the Bay Checkerspot Butterfly, then what role does Tulare Hill play in the metapopulation dynamics? What type of metapopulation structure does the Bay Checkerspot Butterfly express?

The applicant's Set 7 response to my comments on the PSA prompted me to examine their map of ground squirrel burrows at the MEC site (Draft Riparian Corridor biotic Assessment for the Metcalf Energy Center, October 1, 1999). The applicant is incorrect to conclude that the power plant, lay down area, and access roads is so disturbed by dogs that California ground squirrels do not occur in abundance there. I found that the applicant's map of ground squirrel burrows did not represent the distribution of ground squirrel burrows that I observed at the site this past spring. California ground squirrels occupy the extent of the upland area at this location. The widespread distribution of California ground squirrels is significant because their burrows serve as habitat for California tiger salamanders and California red-legged frogs. Both the California ground squirrel and the red-legged frog *require* animal burrows, principally ground squirrel burrows, in upland areas away from the aquatic environment of streams such as Fisher Creek. If California tiger salamanders or red-legged frogs aestivate in those burrows, then they will be destroyed as well, and their habitat will be taken.

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It appears that the ground squirrels have expanded onto the upland areas during the 6 months intervening the applicant's map production and my site visits. This spread of squirrels also may help make my point that the environmental conditions and the constituent biological species are cyclic, and that the environmental setting described by the applicant is inadequate by not considering this inherent cyclic nature of conditions. I recommend to the Service that they determine whether ground squirrels are spreading across a larger area around Fisher Creek, and whether the burrow systems of these squirrels provide aestivation habitat for the California red-legged frog.

The issues I just raised are some of those that I have been thinking about. I intend to bring up additional issues as my articulation of them matures.

7-18-00

Shawn Smallwood, Ph.D. Date